

**ABSTRACT OF THE DISCLOSURE**

An ophthalmic surgical microscope having an apparatus for illumination of a subject with illuminating light, in which the spectral selection and/or polarization and/or phase properties of the illuminating light are selected in such a way that the illuminating light is reflected, absorbed, and/or scattered differently in the different media of the patient's eye (5) and/or at the media interfaces. The light thus modified is coupled out of the observation beam path (2) of the stereomicroscope (1); the nature, shape, and position of the individual media and/or their interfaces are determined using an evaluation unit (14); and an electronically generated optical image is in turn coupled via a projector (16) or other display into the observation beam path (2).

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